

ABSTRACT OF THE DISCLOSURE

Systems and methods are described for wafer processing. A wafer processing apparatus includes: a first wafer transporter; a process station coupled to the first wafer transporter, the process station including: a first plurality of wafer processing stacks, each of the plurality of wafer processing stacks including a plurality of wafer processing modules, and a second wafer transporter coupled to the plurality of wafer processing modules, each of the plurality of wafer processing modules adjacent, and accessible by, the second wafer transporter; and a third wafer transporter coupled to the process station, wherein any of the plurality of wafer processing modules in any of the plurality of wafer processing stacks can be accessed by at least two adjacent wafer transporters from among the first, second and third wafer transporter. The systems and methods provide advantages from minimizing pre-process and/or post-process times, minimizing variation of the pre-process and/or post-process times and reducing robot over utilization.